

ABSTRACT

It is possible to provide a resonator structure that does not cause a variation in anti-resonant frequency can be achieved, even if the cavity and the upper and lower electrode shift. A thin-film piezoelectric resonator includes: a lower electrode provided on the principal surface of the substrate so as to cover the cavity; a piezoelectric film provided on the lower electrode so as to be located above the cavity; and an upper electrode. The upper electrode includes: a main portion which overlaps a part of the cavity, a protruding portion connected to the main portion, an extension portion provided at the opposite side of the main portion. The length of the protruding portion in a direction perpendicular to a direction of connecting to the main portion is substantially the same as the length of the connecting portion in a direction perpendicular to a direction of connecting to the main portion.